

# for **YOUTH** by **YOUTH**

A Newsletter  
of the SYAB  
for Youth in Care  
in the State of Illinois

*Advocating for Youth In Care in Illinois*

Math Edition • 2009

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The regional and state-wide youth advisory boards partner with the Illinois Department of Children and Family Services (IDCFS) to provide advocacy and education for youth in care.

We provide information about resources, opportunities and policies that affect all youth. We are committed to empowerment, leadership and achievement across the State.

Our voices  
will be heard.

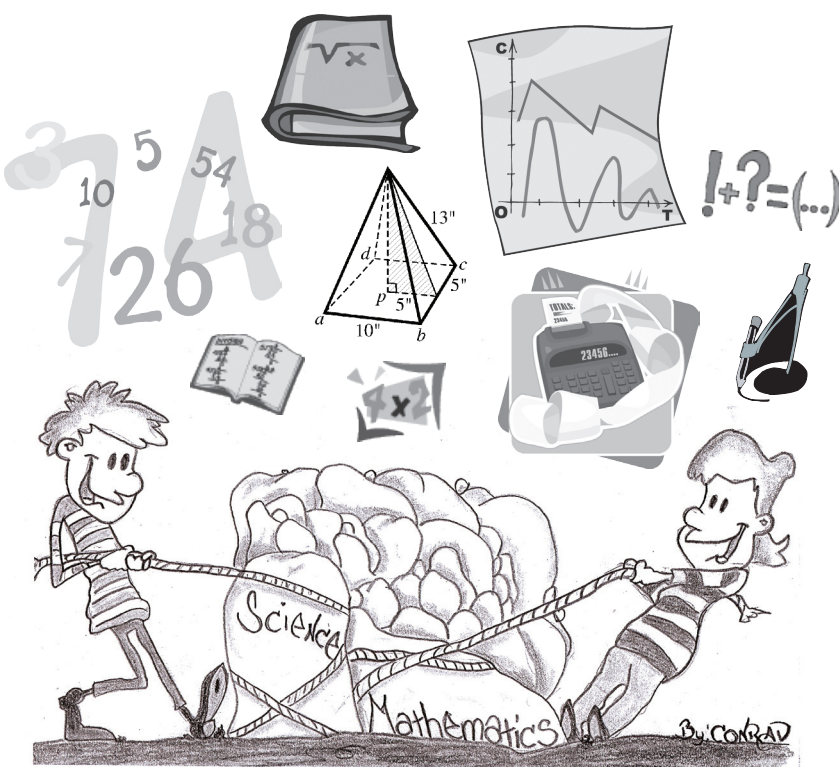


*Infinite Possibilities*

# Repositioning

## MATH & SCIENCE

in the minds of youth  
and the adults in their lives



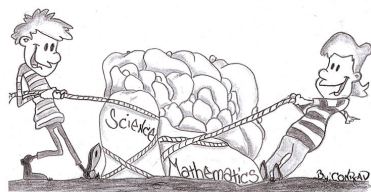
## The Math Issue

# Repositioning Math & Science

## Meet Our Cover Artist

The graphic created by Conrad B. will be used in all three Repositioning Math & Science Special Newsletter issues. For our special Math Issue, math graphics have been added to Conrad's work.

Conrad B. is 19-year old youth in care at Lawrence Hall Youth Services. Conrad is a visual artist who illustrates, draws and does graphic design on the computer. His award-winning art teacher, Janice Gould, describes him as extremely talented. Conrad says, he loves to draw and enjoys doing art on the computer.



*For Youth By Youth* is the newsletter of the Statewide Youth Advisory Board (SYAB) for youth in care in the State of Illinois. The newsletter is a project of the SYAB Newsletter Committee working in partnership with the Institute for Positive Living's Open Book Program. The purpose of this newsletter is to communicate important information to youth in care.

For information on *For Youth By Youth*, contact the Open Book Program, 435 E. 35th St., Chicago, IL 60616 (773-924-9802). Articles, photos and other contributions may be sent to Yvonne Jeffries c/o The Open Book Program or via email to [jyma@sbcglobal.net](mailto:jyma@sbcglobal.net).

**SYAB Officers:** President: Katrina S.; Vice President: Kathleen M.; Secretary: Amy J.; Sergeant at Arms: Davis McG.; Historian: Crassia W.

**Open Book Staff:** Marrice Coverson, Yvonne Jeffries, Mary Montgomery.

**Supported by:** IDCFS and Chicago Area Project Staff.

**Newsletter Contributors:** Conrad B., Kimberly B., Joshua C., Dr. Howard Johnson, Mark L., Kathleen M., David Mc., N.M., Alisha S. L., Katina S., M.S., Betty Turner, Monique Turner

## LETTER FROM THE EDITOR BUSTED!!!

by Yvonne Jeffries ©

"Math is more about thinking than it is about getting the right answer," was Dr. Johnson's response when I asked him what, in his opinion, contributed to the anxiety a lot of kids feel when they are doing math. "We reward students for getting the right answers rather than understanding the concepts." To demonstrate his point, he asked me to solve the following problem.

**A basketball team is given 4 points for each free-throw and 3 points for each field goal. What is the highest number of points it would be impossible for the team to score?**

**The answer is 5.**

I suppose you want to know why the answer is 5. While I have definitely changed my attitude about math, I have a ways to go before I develop the skills to explain answer. So, I called Dr. Johnson. These are his word exact words: "Any two numbers relatively prime—in this case 4 and 3 are relatively prime, and then the largest number you cannot get is 5. You can demonstrate that you can get 6, 7 and 8, three consecutive numbers is enough to show that all number after five are possible."

Dr. Howard Johnson is the Interim Vice President of Student Affairs and Enrollment Management at Chicago State University. He began by trying to help me think through the answer. My response, however—without the slightest hesitation or academic shame—was, "I don't know. I don't do math." To that, Dr. Johnson said something I had never thought about.

"People who can't read would never be willing to publicly admit they cannot read. They would be ashamed. They wouldn't want anyone to know. And you know why?," he asked

*Continued on page 18*

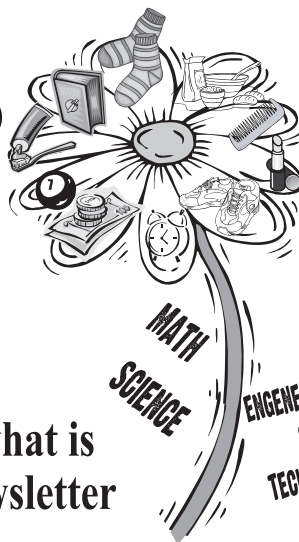
## Repositioning Math & Science in 3 parts

Each of the 3 newsletters will be about The STEM.

Webster's defines a stem is the stalk which supports a leaf, a flower or fruit.

This how we need to think about science, technology, engineering and mathematics – as the STEM to which so much of our everyday life is attached.

No STEM! NO

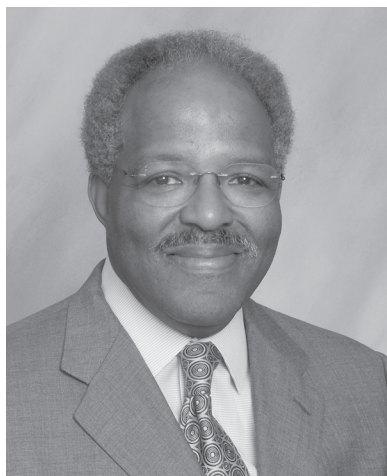


or the millions of other things we touch, taste, smell, hear, see and, of course, use in one way or the other.

**Here's what is  
in each newsletter**



**-Y?**  
Maybe—but that's  
the way it  
shakes out.



# Changing Our Attitude About Mathematics

*An Interview with  
Dr. Howard Johnson,  
Interim Vice President,  
Student Affairs and Enrollment Management,  
Chicago State University*

**Yvonne Jeffries (Y).** You were a Math Professor?

Howard Johnson (J). Yes, at Syracuse University for 39 years.

I attended Chicago State University. But, I didn't start college with the intent of studying mathematics. In fact, I wasn't sure what I wanted to study until one of my mathematic professors asked if I'd ever thought about earning my living as a mathematician? I said, "No." This is the question that set me on the path to where I am today. I had always enjoyed doing mathematics but I didn't know there was a role in society for people who had fun doing it.

I grew up in public housing. I went to public school. Because a faculty member at Chicago State was paying attention to what I was doing in class and cared enough about my success to give me guidance, I earned a PhD in Mathematics from Northwestern University, taught Mathematics at Syracuse and served as Dean of the graduate school. I am a member of the American Association of Universities, a group to which only 62 of the top colleges are invited to join. I have also served as President of the Association of Graduate Deans. Now, I am Interim Vice president of Student Affairs and Enrollment Management at the school where my love for mathematics turned into a career that I could not have imagined when I was in high school.

**Y.** You were probably better at mathematics than the average student?

J. That is true but studying mathematics was not easy. When I started I couldn't pronounce or understand many of the words. The first time I heard some of the words, I said, "What? Mathematics was always fun and interesting but it is not always easy.

Mathematics is a subject that requires your constant attention if you are going to understand it. You have to go to class and you have to practice in between class. One of the reason I was able to develop my mathematical abilities is I went to class. I had perfect attendance in high school and did not miss class in college.

If your instructor introduces a mathematical concept and you miss class the next day and/or do not practice learning the concept in between class, you are going to fall behind.

**Y.** It is not uncommon to hear students say, "I can't stand Math or I'm not good at Math."

J. That's because of our attitude about mathematics.

**Y.** Whose?

J. The attitude of adults—teachers, parents, key people who make

decisions about education. If adults don't change their attitude about who can learn mathematics and who should be able to do it, young students will not change their attitude. If young students don't change their attitude about mathematics, they are not going to be prepared to function in a world that is becoming increasingly dependent upon transportation, technology and communication.

Let me give a little bit of history. Before World War II, if you wanted to know anything about technology and science, Germany was the Country on which you had to depend. Germany could have rebuilt and retained its reputation after the war, but its racial policies forced its citizens to flee the County.

Lesson: Racial and sexist policies in this county are threatening the United States' capacity to compete technologically. But, in the future, there will not be enough white males to meet the demand for people to fill positions in science, technology, mathematics and engineering.

- One-third of the new PhDs in chemistry are women.
- Less than 5% of all new PhDs in chemical engineering are women.
- At the rate the United States is producing African-American PhDs in Mathematics, it will take us 200 years to have one PhD in each of the 4000 colleges and universities in America. And, it will take a minimum of 200 years ONLY if everything remains constant.

A belief that skin color and gender determine one's ability to learn mathematics is a belief or perception that has to be dispelled in this Country. Far too many African Americans and women begin school believing they cannot "do" mathematics. Far too many educators reinforce this belief/perception with low expectations.

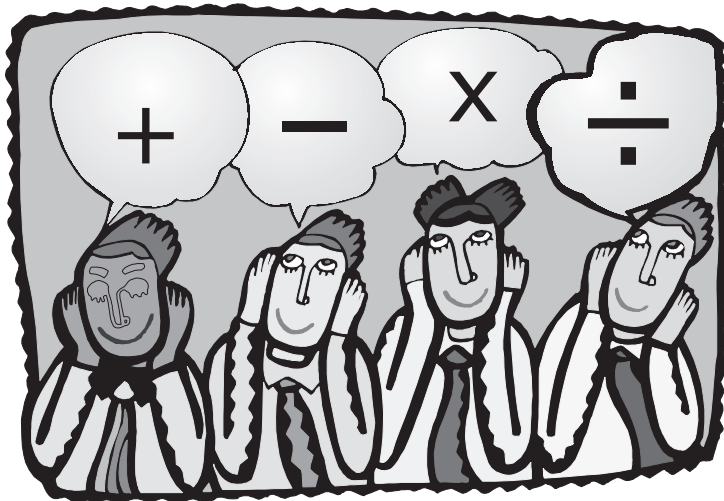
For instance, one of the first things you said is, "I can't do math." Intelligent people say that all the time. But you don't hear people saying, "I can't read." In fact, if people can't read, they hide it. They are embarrassed. Why do we not feel the same about not being able to "do mathematics?"

**Y.** Why?

J. It is socially acceptable to not be able "to do math." We do not feel the same about mathematics as we do about reading because of our beliefs about who has the ability is to understand mathematics. Even if you are highly educated or what we call "smart," it is all right

*Continued on page 19*

## *Repositioning Math & Science*



# Learning How To Talk Math

by Monique Turner

Note: Ms. Turner taught algebra, geometry and trigonometry at Englewood Technical Prep Academy for eight years.

If someone says “do you have change for a fin or “that’s nice gear,” most middle and high school students will understand the question. And most middle and high school students will be able to answer these questions correctly.

Mathematics has its own language too. In order to do your best in math, you have to understand the language of mathematics. When you understand what is being asked, you increase the chances of answering correctly.

Check out this chart and see how well you understand Math Talk. If you don’t know the Math Talk in column three, here’s your chance to start learning a new language.

For	You say	Standardize tests ask you:
Addition	Add	The sum of
Subtraction	Take away	The difference
Multiplication	Times	For the product
Division	Divide by	For the quotient

## Practice Make Perfect—or Close To It

Every mathematician did not start off liking mathematics or being good at it. Instead, they did what people do who get good at anything. They practiced and challenged themselves. Check out the FREE online math games: brainteaser, cross sum puzzles, Kakoru, logic puzzles memes, prime numbers, Sudoku, etc.





## Everybody Knows How To Do Mathematics

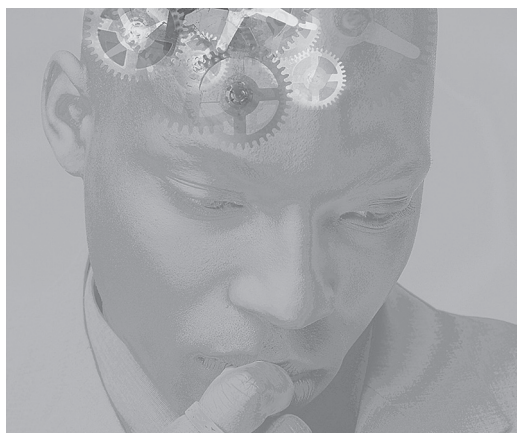
by Betty Turner, Mathematics Teacher

MATH TERMS	MENTAL MATHEMATICS
Length	How much toothpaste will fit on my toothbrush?
Volume	How many supplies will fit in my back pack?
Distance	How far do I have to travel to school?
Nutrition Information	How many carbohydrates, how much fat, how much protein, etc are in whatever I eat for breakfast?
Amount	How much is bus fare to get to and from school ?
Time	How many minutes will it take you to get to school?
Weight	How many ounces of wood chips do you have to get for your math project?



Everybody knows how to do mathematics because everybody has to do it to get through the day. Here's an example. You get up at 6 a.m. By the time you get to school at 7:30 a.m., you will have completed these math problems.

This is called mental mathematics. Do we think we're doing mathematics when we do everyday things like this? Probably not. Is this mathematics? Absolutely. From now on, instead of saying, "I'm not good at math or I can't stand math," ask yourself, "What kind of math am I doing?"



### Mathematics Concepts Do Not Change

The same concepts you learn in 3rd and 4th grade about multiplication are the same concepts you will need when you do algebra and other types of math in high school and college.

Mathematics problems will get more complicated, but the basic mathematics concepts will not change. Addition, subtraction, multiplication and division are at the root of all mathematics—algebra, geometry, trigonometry, and calculus.

## Repositioning Math & Science



# Geeks? Number Crunchers?



Look at who wants to hire them.



We call people like this geeks and numbers crunchers. They do like to crunch numbers and they might be geeks but I can't think of one industry that does not need them. Their knowledge of and interest in numbers is important to employers but the real reason they are in such high demand is they have acquired excellent problem solving skills.

They started learning the problem solving process in pre-school and they got better and better at it. That's why they are good at math and can get a job using their math skills.

The rest of us might be making fun of the geeks but they are laughing all the way to the bank. For example, do you recognize any of these famous Geeks and Number Crunchers?

## FAMOUS GEEKS AND NUMBER CRUNCHERS



Basketball  
player  
Michael Jordan  
started out as a  
math major.

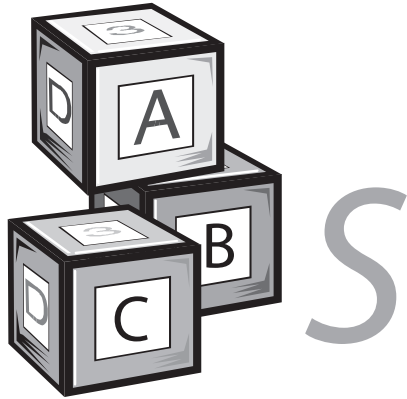


The actress Danica McKellar, perhaps better known as Winnie from *The Wonder Years*, has written a math book for middle school girls called *Math Doesn't Suck*. Danica graduated with highest honors from UCLA with a Bachelor of Science degree in mathematics.

**Meet  
Some  
More  
on  
Page  
8**

*Employers in all fields of work have issued the same request across the country: send us employees who can think, reason and solve problems. The cry is loud and the call is reasonable. Children must be helped to learn mathematics in a better way than we were so that mathematical limits do not shut them out of certain life choices and career options.*

**Marilyn Burns**  
**Math: Facing an American Phobia**



# Of M-A-T-H Employment

**A**dvertising agencies, **B**anking institutions, **C**asinos,  
**D**ental services, **E**ducational institutions, **F**ood service  
industry, **G**raphic designer firms, **H**omeland security firms,  
**I**nsurance companies, **J**ob analysis industry, **L**aboratories,  
**M**usic industry, **N**ews media (electronic and newspapers),  
**O**ccupational health and **S**afety industry, **P**olitical campaigns,  
**R**esearch firms, **S**oftware companies, **T**elecommunica-  
tion companies, **U**tilities companies, **V**ehicle manufacturing,  
**W**aste management firms, **X**-ray technology industry  
and the **Z**oo.

ALSO: Today mathematicians also work with scientists to find solutions to diseases such as cancer, Alzheimer's, diabetes and addictions and to learn more about DNA and stem cells. Mathematicians also work with scientists researching the new alternative energy sources like wind and sea current power.

**EXERCISE:** Research each type of company and industry in The ABCs of M-A-T-H Employment by going on the Internet or to the library. See what kinds of jobs require a solid knowledge of mathematics. If you find a job that interests you, dig even deeper. One way to do that is to find out what businesses near you employ people with those skills. Call the company's Human Resource Department and see if you can interview someone on staff who has that job. Ask them for their advice. For example: What are the specific math skills you need to develop?; What advice will help you pick out the best colleges; and Can they share some words of wisdom? Professionals are usually eager to mentor young people interested in their career fields.

# Repositioning Math & Science

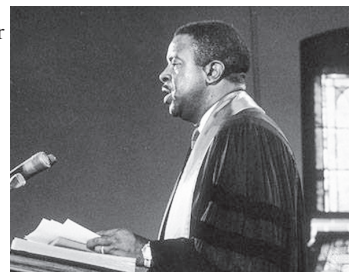
## FAMOUS GEEKS AND NUMBER CRUNCHERS

Continued from page 6



In 1998 Melanie Wood became the first high school girl ever to win a spot on the United States Mathematical Olympiad Team.

Ralph Abernathy, civil rights leader and Martin Luther King's closest aide, was a math major.

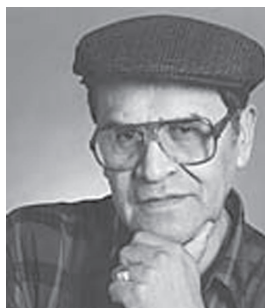


Bill Gates was an eighth grade math and computer whiz. Today he is an American business magnate, philanthropist, author, and chairman/founder of Microsoft. He is ranked consistently one of the world's wealthiest people and the wealthiest overall as of 2009.

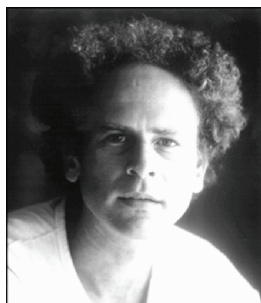


Victoria Gould is not only a successful actor, she is also a mathematician. Recently she helped develop theatre company Complicite's production "A disappearing number," which perfectly brought together the mathematical and theatrical sides of her life.

Willa Chen, a Michigan high school student, is in the news for getting perfect scores on three college entrance tests! Her love of math may have given her the skills to calculate the odds for acing the tests. She participates in the Math Olympiad.



Jaime Escalante is a professor and teacher of mathematics who gained renown and distinction for his work at Garfield High School in Los Angeles, California in teaching poor minority students calculus, from 1974 to 1991. The movie, *Stand and Deliver*, is based on his work.



Singer/songwriter Art Garfunkel holds an MA in mathematics from Columbia.

Sana Raoof, a senior at Jericho High School, Jericho, NY, received a 2008 Intel Young Scientist Award and a \$50,000 scholarship from the Intel Foundation for her mathematics project.

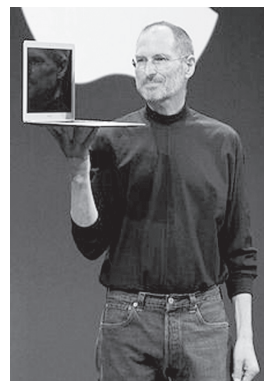


Trachette Jackson is associate professor of mathematics at the University of Michigan. She received a Ph.D. in Applied Mathematics in 1998 from the University of Washington. Her research focuses on modeling the growth and control of cancer.

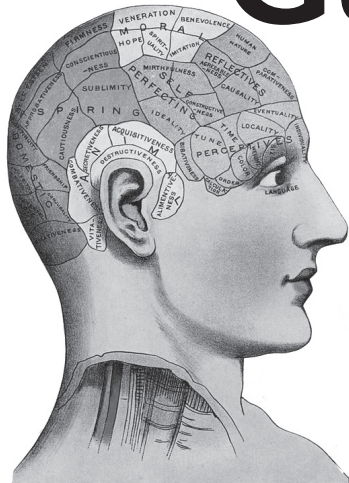


Arlie O. Petters' book on Gravitational Lensing is considered a tour de force in mathematical physics and he has been called a founder of mathematical astronomy.

Steven Jobs, co-founder and CEO of Apple Inc. was adopted. In Junior High School and High School, Jobs frequented after-school lectures at the Hewlett-Packard Company and was hired there as a summer employee. Although he dropped out of college, his love of math and computers led to the creation of one of the first commercially successful personal computers.







# Guess What?

You Can Improve Your Math Ability by using the MP3 player with which you were born: Your BRAIN!

## Here's how it works

1. You learn strategies for doing math problems correctly.
2. You practice those strategies just like you practice dance steps and basketball shots or lyrics.
3. Your brain will download what you learn. And, when you need to remember, your brain will play it back it.

## MATH on Prime Time TV!



### NUMB3RS

Television is not real life. But, the television series NUMB3RS (channel 2, 8 p.m Friday) shows how mathematicians use their skills help solve crimes. Charlie and the gang do a lot of cryptology, which involves deciphering codes and creating algorithms and solving other mathematical puzzles.

Check out the website, We All Use Math Everyday ([www.weallusematheveryday.com/tools](http://www.weallusematheveryday.com/tools)). It is an archive of classroom activities from seasons one through four NUMB3RS.

### THE SIMPSONS

The TV show The Simpsons often contains references to mathematics. For example, a show called "Girls Just Want to Have Sums" aired on Sunday, April 30, 2006, and explored the topic of women in mathematics.

Go to the [simpsonsmath.com](http://simpsonsmath.com) website for more about math on The Simpsons and to check out the Activity Sheets.





# GRADUATION CELEBRATIONS!

## DCFS/CAP Graduation Celebration Dates

**June 19, 2009:** Central Region Graduation Celebration (11:00 am-4:00 pm), State of Illinois Governor's Mansion, 4th and Jackson, Springfield, IL 62701.

**June 5, 2009:** Southern Region Graduation Celebration Collinsville, Water Park, IL 62707.

**June 18, 2009:** Northern Region: Kishwaukee Community College, 21193 Malta Rd., Malta, IL 60150.

**June 26, 2009:** Cook County Graduation Celebration Dave and Busters, 1030 N. Clark St., Chicago, IL 60610.

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## Hispanic Scholarship

The Hispanic Scholarship Fund (HSF) and General Motors (GM) have partnered to provide financial resources to assist outstanding Latino students pursuing degrees in Engineering and Business. Applicants may be graduating high school seniors or current undergraduates (Freshmen, Sophomores, and Juniors). The award amount is \$2,500. Applications are available: May 5, 2009. Application deadline: July 15, 2009.

Go to <http://www.hsf.net/AboutHSF.aspx?id=60> for information.

## Employment Incentive Program

Youth can enroll in the employment Incentive Program and work 20 hours. Fax/send in your check stubs, receive a \$150 stipend. Call Patricia Diamantopoulos at (312) 814-6804. For employment opportunities call Gail Simpson (217 524-2425).



## Getting Green

Save 4 gallons of water a minute. Turn off the water while you brush your teeth—That adds up to a saving of 200 gallons of water a week for a family of four!

### DCFS Youth Summit Dates:

**June 12, 2009:** Southern Region Youth Summit (8:00 am - 4:00 pm), Kaskaskia College, 27210 College Road, Centralia, IL 62801. Contact Person: Kim Peck, (217) 557-2689.

**June 17, 2009:** Cook County Youth Summit (10:00 am - 4:00 pm), Malcolm X College, 1900 W. Van Buren St., Chicago, IL. Contact Person: Lynda Swan-McClendon (312) 814-5991.

**June 18, 2009:** Northern Region Youth Summit (9:00 am - 3:30 pm), Kishwaukee Community College, 21193 Malta Rd in Malta, IL. Contact Person: Holly Bitner-Duck (630)-801-3446.

**June 23, 2009:** Central Region Youth Summit (8:00 am - 4:00 pm), Lincolnland Community College, 5250 Shephard Road, Springfield, IL. Contact Person: Gail Simpson (217) 524-2425.

## SUMMER JOBS!

**Deadline May 29, 2009**

The on-line application for Mayor's Daley's Summer Job Program for youth 14-24 is available at [www.youthready.org](http://www.youthready.org).

You must apply on-line.

### The Illinois Inter-agency Athletic Association

The Illinois Inter-agency Athletic Association (IIAA) is primarily a sports recreation program where boys and girls, most of whom live in residential care facilities, are encouraged to participate in favorite sports such as:



Social events such as a talent show, picnics and dances are also held. Want to know more about IIAA? Call Tom Corr at 217-785-5382.

***Coming up***  
**Athletic State Tournaments**  
**Softball**  
**July 17 and 18**

# Repositioning Math & Science

Name \_\_\_\_\_

A Math Forum Project

## 2009 Mathematics Game

Rules of the Game: Use only the digits 2, 0, 0, and 9, in any order, with the operations  $+$ ,  $-$ ,  $\times$ ,  $/$  (divide),  $^$  (raised to a power),  $\sqrt{\quad}$  (square root), and  $!$  (factorial), to write expressions for the counting numbers 1 through 100. Grouping symbols may also be used, and multi-digit numbers such as 20, 209, 0.02 may be used this year. Write your answers in the boxes below, using no equal signs.

Correct format:  $(2 + 0) - 0 + 9$ .

Incorrect format:  $2 + 0 = 2 - 0 = 2 + 9 = 11$ .

1		35		69	
2		36		70	
3		37		71	
4		38		72	
5		39		73	
6		40		74	
7		41		75	
8		42		76	
9		43		77	
10		44		78	
11		45		79	
12		46		80	
13		47		81	
14		48		82	
15		49		83	
16		50		84	
17		51		85	
18		52		86	
19		53		87	
20		54		88	
21		55		89	
22		56		90	
23		57		91	
24		58		92	
25		59		93	
26		60		94	
27		61		95	
28		62		96	
29		63		97	
30		64		98	
31		65		99	
32		66		100	
33		67			
34		68			

<http://mathforum.org/yeargame/2009/>



## Take the AmLak Writing Challenges Play Math

To meet this challenge, go to the website below and submit at least 5 solutions to the 2009 Mathematics Game. The website will print each solution you submit. Get your solutions to Open Book along with an essay "What I learned from Playing the 2009 Mathematics Game" (jyma@sbcglobal.net) by June 30, 2009 and you'll have a chance to receive \$25.00.

Get your parents or some other adult in your life to work with you.

The first four youth to submit their five solutions and their Essay will win the challenge. Good Luck!

**Check this Out!**

<http://mathforum.org/yeargame/2009/>

**2009 Mathematics Game**

For many years, mathematicians, scientists, engineers and others interested in mathematics have played "year games" via e-mail and in newsgroups.

As with many games, the rules for the Year Game can vary slightly. Teachers may wish to use different rules in their own classrooms. This Web page is intended for students in grades three through twelve with a general knowledge of mathematics.

**Our rules:** use the digits in the year 2009 (in any order) and the operations  $+$ ,  $-$ ,  $\times$ ,  $\div$ ,  $^$  (raised to a power),  $\sqrt{\quad}$  (square root), and  $!$  (factorial), along with grouping symbols, to write expressions for the counting numbers 1 through 100. This year we will also allow the use of decimal points and double-digit numbers. Please read and follow the rules <<http://mathforum.org/yeargame/2009/2009.rules.html>> carefully if you wish to have your solutions posted on this site.

You may print out worksheets <<http://mathforum.org/yeargame/2009/2009.worksheet.html>> to record your findings, or may print sheets of manipulatives <<http://mathforum.org/yeargame/2009/2009.manipulative.html>> for students to use.

Student solutions may be submitted starting January 1, 2009, using the Web form on page 12. The website will begin to post student solutions <<http://mathforum.org/yeargame/2009/solutions/>> after February 1, 2009. Student names, school names, and grades will appear EXACTLY as you enter them if your solution is posted. Your e-mail address will not appear on the Web page.

You can use the Web form to enter as many different solutions as you find; however, you must complete the entire form for each submission. (You may not submit two solutions on one form.)

**Deadline:** Your essay must be typed and received at Open Book by July 10, 2009.

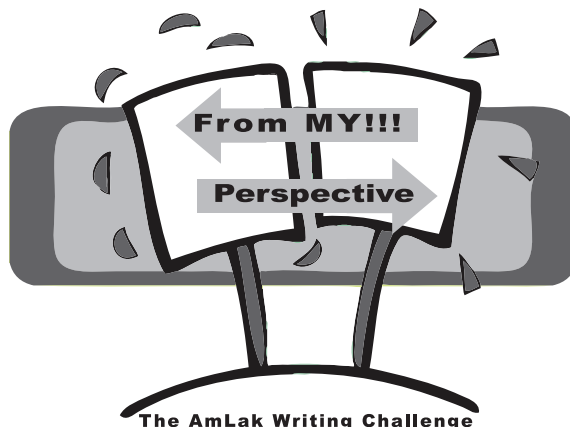
Send your submission to:

**e-mail:** [jyma@sbcglobal.net](mailto:jyma@sbcglobal.net)

**Fax:** (773) 288-4345

**Mail:**

For Youth By Youth  
c/o the Institute for Positive Living/Open Book  
435 E. 35th St.  
Chicago, IL 60616



## Prime Numbers Math Challenge

Anybody up for a math challenge using prime numbers?

Remember "BUSTED!!!," the editorial about math and my interview with Dr. Howard Johnson, the Interim Vice President of Student Affairs and Enrollment Management at Chicago State University? Dr. Johnson's math problem about the basketball team? The answer was based on prime numbers.

If you're up to the Prime Numbers Math Challenge:

1. Write an article on prime numbers that will be of interest to other youth.
2. Go <http://www.murderousmaths.co.uk/games/primcal.htm>.

Pick three problems. Figure out the answers. Write an article that includes the problems you solved, how much fun had and what you learned.

**Deadline:** Your article must be typed and received at Open Book by July 10, 2009.

Send your submission to:

**e-mail:** [jyma@sbcglobal.net](mailto:jyma@sbcglobal.net)

**Fax:** (773) 288-4345

**Mail:**

For Youth By Youth  
c/o the Institute for Positive Living/Open Book  
435 E. 35th St.  
Chicago, IL 60616

# Repositioning Math & Science

## Regret

By Mark L. ©

I do not regret the things I say or do because regret  
is one of the things that is always true.

Like the apple pulled by gravity,  
regret will always fall to the deepest part  
within your wall.

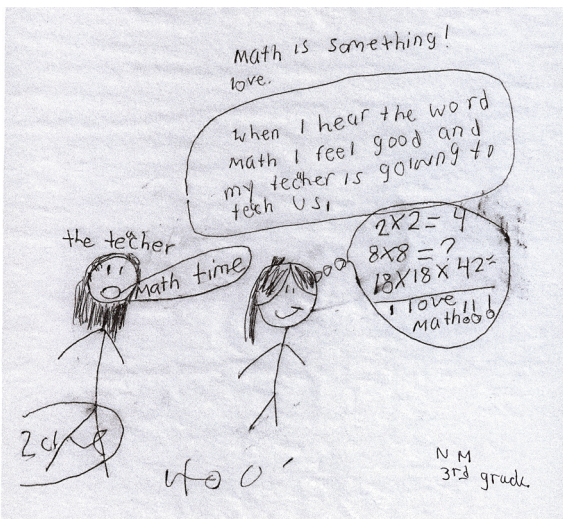
Even though it might move slightly with time...  
it will always be tethered to that line—  
the line that holds your life straight, the line that connects with your mind.  
That line may fray but will always stay until the day you pass away

POETRY  
POETRY

## My Heart

by Mark L. ©

I have given you the most important thing I have,  
an item of immeasurable wealth – my heart.  
It holds the beat of my life within its grasp  
and it's yours to have.  
If this relationship ends,  
my heart will be broken but it will mend  
because I have memories.  
They will be the glue that will hold my heart strong  
while search for love so I can pass it on.



N.M. loves math and sent us this  
drawing to prove it.

## My Reality

by Joshua C. ©

Life is love subsided by emotion.  
We live in a world  
We are run by fear  
Fear of the unknown.  
We as humans are in fear of what is not seen or  
that of which we do not understand.

As I venture into the world my painful reality  
is no shock  
I fall into what seems to be infinite pain  
The abysmal darkness encompass my mind  
The unknown I once feared;  
Helped  
created  
and destroyed all of what I once knew

As the infinite cold of my reality  
nips at my heart as well as my cheeks  
I can't help but recreate my world  
better, full of what is good  
A world where I define success...

Living life... Loving life

# POETRY POETRY

## **Life**

by Kimberly B. ©  
Better known as  
Poetic Justice

The first step you take  
The good and bad decisions you make  
Just getting by day by day  
Your ups and your downs  
You freaking out  
Still not understanding what this is about  
Your life your dreams  
Your joy your pains  
Your ins your outs  
You scream you shout  
Confused no doubt  
It's get in or get out  
Wake up - realize  
This is your gift your prize  
This isn't a dream  
It's your life  
Sounds funny  
Don't be surprise  
You'll laugh now  
But later you'll cry  
You know its your life  
So open up your eyes  
It's not their life  
It's your.

## **Who You Trying to Fool?**

by: David Mc. ©  
March 2009

It's not like Math is hard. But the teacher can't teach.  
She leaves my brain scarred. She tries to explain-she really  
does but her teaching methods are plain.

Instead of learning and trying to mature, I get stuck on the  
same problem and my mind is no longer pure.

I have things to say but I can't let it be known. If I really tell  
the teacher how I feel, she might leave me alone.

I want and need help. I'm in school to learn. I want to gain  
knowledge but it seems like for today, everybody's had their  
turn.

I'm open for learning. My mind wants to expand. But, when  
the teacher asks me the what makes 18, I look at her like,  
"Man, who you trying to fool?" Math for me is a joke ex-  
cept for money—that part of it is cool.

## **Until**

Kathleen M. ©  
March 2009

Learning  $2 + 2$  is cool  
Multiplying, adding, dividing and subtracting  
That's cool too  
That is until you enter high school  
Algebra I and Algebra II  
Shoot! I've been lost since the 1st day of school.

# *Repositioning Math & Science*

# POETRY POETRY

## Change

M.S. ©  
March 2009

$2 + 2 = 4$  that is me, you, him and her though I come b4 you minus 1 minus 2,  
this is how we do when phones and computers run us. Though this  
is not our choice, the matrix is on the way because math has helped science and science has made technology  
and we are trapped in our arrogant ways and now we need to change. Are we willing to do it? Can we make  
the change? Can we make the day, when technology won't be a mishap that has enslaved us? I believe there  
we can but like it or not, education is the way.

## Equations

Kathleen M. ©  
March 2009

$Y=mx+b$  Standard form of the equation, the quadratic equation  
 $B + b^2 - 4ac$

What is it with all this alphabetic of mathematics?  
Teachers think it's easy  
Just plug in the numbers they say

These math situations are a depressing revelation. But, suck it up and do the calculations. You'll find they're  
a need and essentially a must cuz when you cannot count your money that's when you're out of luck. So just  
suck it up.

## Perspective

Alisha S. L. ©  
March 2009

Woke up late  
decided not to do my homework last night  
I will do it on the bus.  
The ride is rough and my assignment is messy.  
Chillin' with friends a little bit after the bell rings  
tardy to class. Now I can't redo my paper.  
gets graded and handed back  
two letter grades deducted for untidiness—an "F."  
now my GPA—too low to graduate.

I feel regret and anger.  
I should have been more accountable  
should've, could've, would've  
aspirations are diminishing  
opportunities not taken  
another year of high school repeated.

Post graduating my friends  
all this over one assignment, maybe more-definitely more.  
Lesson learned: do what is required now so that it is not a  
necessity later

## Half-stepping

Kathleen M ©  
March 2009

The continuation of these numbers and equations  
is nerve wrecking.

If I miss school, I don't get it,  
then I'm half-stepping.



## THE MATH ISSUE

# PROSE PROSE

You wouldn't believe how many people in this century think math sucks. Many people can't do math let alone like solving math problems. Maybe its because they can't understand all the numbers. Or, it might be too many numbers for their mind to process at the same time.

On the other hand, there are people who love math. They find math to be one of the easiest thing in the world to do.

Me? I LOVE math! I can remember numbers like they've been indented in my head. Most problems are easy for me to do. When problems are not so easy, I enjoy the challenge of figuring them out. Math is exciting! I also enjoy being the person in my social group everyone comes to when they need help with math. I like it that my friends trust me to help them.

One of the reasons I'm good at math is because I'm good at problem solving. Problem solving is one of my favorite things to do. I like investigation, finding answers to real life problems.

Even though I may be a genius at math, I'm not all that smart when it comes to English. Either way, math smart or English smart, I feel that it is important to have basic knowledge in both areas. Even though you may not like a particular subject still try and do your best to know and understand them. You don't have to love math but it doesn't have to suck either.

**Math  
Sucks**



**Love  
Math**



*Me? I LOVE math! I can  
remember numbers like  
they've been indented  
in my head.*

©Katina S.  
March 2009

# Repositioning Math & Science

## RESOURCES

### Math Resources for Youth and the Adults in their Lives

#### Books

**40 Fabulous Math Mysteries Kids Can't Resist** (Grades 4-8) by Marcia Miller. Building serious math skills has never been so much fun!

**5-Minute Math Problem of the Day** by Martin Lee. Chock-full of problems to help your students exercise essential problem-solving skills every day of the year.

**Improve Your Grades: How to Become an Honor Student** by Bautista Veltisezar. This book is comprehensive program for effective studying and test taking. This revised edition features memory codes to help students remember facts and figures, link systems for learning, and strategies for summarizing. With all-new techniques for mastering grammar and writing, tips for handling exams, and a guide to using the Internet to improve grades, this book details how to go from average student to honor roll.

**Math: facing an American Phobia** by Marilyn Burns. An award-winning educator and author of many math storybooks for children grades two to

eight, Burns explains her teaching approach by example, presenting her ideas as classroom scenarios and conversations.

**Reading And Writing The World With Mathematics: Toward a Pedagogy for Social Justice** by Eric Gutstein. Gutstein argues that mathematics education should prepare students to investigate and critique injustice, and to challenge, in words and actions, oppressive structures and acts.

**Reality Math for Teens** by Jody Nichols. Teaching and encouraging Financial Literacy number sense in the real world is the purpose of Reality Math for Teens. In simulations, students use math and problem solving skills for an authentic purpose and learn to make good financial, real world decisions. All units are correlated to National Math Standards.

**Rethinking Mathematics** by Eric Gutstein and Bob Peterson. In this unique collection, more than 30 articles show how to weave social justice issues throughout the mathematics curriculum, as well as how to integrate mathematics into other curricular areas

## BUSTED!!!

*Continued from page 2*

rhetorically, “because society expects everybody to be able to read. If you cannot read at a level that is expected of you, it will seriously affect your ability to function in this society. The United States does not have the same expectations for math skills as it does for reading. That is why you, an intelligent woman, did not have any qualms about saying, without even thinking about it, that you don’t know how to solve this problem. Neither you and nor anyone else should be that comfortable saying that you cannot do mathematics.”

Talk about busted! I’m famous for saying, almost to the point of bragging that my math ability is limited to addition, subtraction, multiplication and very short division. It’s true. My math skills are limited, but that’s not the point. I didn’t get busted because of my limited math skills. I got busted because of my attitude.

There is a difference between skills and ability. Skills are acquired through practice. The more you practice, the greater your skill level. Ability is something you are born with. However, if you don’t develop skills, you won’t get maximum benefit from your ability. For example, my sister and my niece have the natural ability to do math but they also studied and practiced in order to make the most of their natural abilities.

I think I can safely say I don’t have their ability—so much for DNA. But that’s okay because the real difference between them and me is not about our abilities. It is about our attitudes. They wanted, for a long as I can remember, to learn math. They viewed math as something they could learn and did what was needed to develop their skills. I didn’t. I learned just enough math to not mess up my GPA. You might argue that their attitude was different because they have natural ability. There is probably some truth in that but here’s the deal: **“It is attitude, not aptitude that determines your altitude.”** These words by motivational speaker, Zig Ziglar, best explains the real difference between my Sister and my Niece and me.

So here’s what I’m left with: My limited math skills are probably more a reflection of my attitude than my ability to learn math. At this point in my professional career, I’m not going to invest the time in learning what I might have learned if my attitude had been different. And now here’s the lesson: **a negative attitude is like a concrete wall. Once erected, it is next to impossible for anything to penetrate it.** The price I’ve had to pay over time for having a negative attitude about math is miniscule compared to the price you

guys will pay if your attitude is like mine. Everyone with whom I have spoken said the majority of the 21st century jobs will require what is called applied mathematics. You cannot afford to blow math off the way I did.

This newsletter is about all of us re-thinking the value of one of the most important subjects you will take in school —mathematics. Do you know you were learning math concepts in pre-school when you were stacking blocks, stringing beads, singing “Old McDonald had a Farm, playing musical chairs, doing the finger song “The Enseey, Weensy Spider,” and playing at the sand table and the water table? And, that these activities were the foundation for the addition, subtraction, multiplication and division you learned in first, second, third and fourth grades? And, that the math you learned in those grades is the foundation for all the math you will learn in middle school, high school and college? Well, it’s true.

This newsletter is also about why adults like me need to make sure we are not giving you the impression that it is OK for you not to be competent in math. Far too many of you have a real fear and/or dislike for mathematics and we adults have to take our share of the responsibility for this. As you have so often heard us say, “When you have a negative attitude, it affects other people.” Well, the same thing applies to us. If we don’t change our attitude about the math, we won’t, with the best of intentions, be able to support you in acquiring the math skills you need for post-secondary education or for a career.

The fact is, you’re coming of age in a world that is very different from the one in which me and others in the generations before you grew up. Many of us could get by with math related to life skills. You can’t. As I said earlier, 80% of the jobs for which you’ll compete will require a working knowledge of applied math. And so, it is irresponsible for us to continue to pass our bad attitudes and fears on to you like they are pieces of prime real estate or something.

Here’s good news! I have repositioned math in my mind. And I think I speak for the majority of the adults in your lives when I say they will do the same. We will do better. We will be there for you. We will encourage you to become as competent in math as you are in reading and rappings. So, that leaves one question. Will you reposition math and science in your mind and help your peers do the same?

## RESOURCES

## Math Resources for Youth and the Adults in their Lives

**Speed Math for Kids: The Fast, Fun Way To Do Basic Calculations** by Bill Handley. Speed Math for Kids is your guide to becoming a math genius—even if you have struggled with math in the past. Believe it or not, you have the ability to perform lightning quick calculations that will astonish your friends, family, and teachers. You'll be able to master your multiplication tables in minutes, and learn basic number facts while doing it. While the other kids in class are still writing down the problems, you can be calling out the answers.

**The Book for Math Empowerment** by Sandra Manigault. Rethinking the subject of mathematics, this book deals with the psychology of learning math. It approaches the issue of math anxiety through an affirmative process. This is a frank and honest look as to why mathematics has been given a false mystique in American culture and what can be done about it.

### Schools

**Infinity; Math, Science, and Technology High School.** Located in Little Village/Lawndale, this school prepares students for the ever increasing jobs requiring strong math, science, and technological skills. Check out their website [www.lvlhs.org](http://www.lvlhs.org).

### Websites

**Simpsonsmath.com.** Math is often part of the plot on The Simpsons. Find out how The Simpsons can help sharpen your math skills.

**We All Use Math Everyday** ([www.weallusematheveryday.com/tools](http://www.weallusematheveryday.com/tools)). This is an archive of classroom activities from seasons one through four of the TV show NUMB3RS.

**Coolmath4kids.com.** Check out the math games, fun math lessons, puzzles and brain benders, flash cards for addition, subtraction, multiplication and division, geometry, fractals and much more.

**Edhelper.com.** The site includes sections on Middle School Math and Algebra.

**King's List of On-Line Math Activities.** This comprehensive site contains links to numerous online math activities. Included are activities on basic facts, basic math skills, factors/multiples, fractions, geometry, graphing/data collection, measurement, the metric system, and much more.

**Math Arcade on funbrain.com.** Check out math games in the Math Arcade section of Funbrain.com

**Mathweb.** Webmath is a math-help web site that generates answers to specific math questions and problems, as entered by a user, at any particular moment.

**Math.com.** Free math lessons and math homework help from basic math to algebra, geometry and beyond. Students, teachers, parents, and everyone can find solutions to math problems. In addition to solutions, Math.com offers exploratory and recreational introductions to the world of math that will lead to deeper understanding and enjoyment.

## Changing Our Attitude...

*Continued from page 3*

to lack basic mathematic skills. Unless we change this, our young people are not going to be prepared for meaningful participation in a technology-driven society.

### Y. What can we do differently?

J. Mathematics is more about thinking than doing. For most students, the emphasis is on learning how to do mathematics rather than learning how to think about mathematics. There are very few problems where the "right" answer matters more than understanding the problem solving process and the concept. Most students concentrate on not getting the problem wrong because they will be graded on how many they get right not how well they can demonstrate their understanding of the particular mathematics concept.

- Teacher training institutions need to help their students understand what it means to be a mathematics teacher, explore their attitude about mathematics and cultural factors that might influence how they perceive the students to whom they might teach mathematics.
- Adults need to talk about mathematics differently—re-position it in the mind of students. This needs to start in early childhood development.
- Learning mathematics requires an investment of time. That is true even for someone like myself who thinks mathematics is fun. I had to go to class, do homework, take practice test and struggle with concepts that did not come easy.
- We need to teach critical thinking and problem-solving not rote learning.
- We need to remember that you only do school mathematics in school. We need to help students learn how mathematics applies to real life situations.

*I always enjoyed doing Mathematics but I didn't know there was a role in society for people who had fun doing it.*  
-- Dr. Howard Johnson

**Y. Some of our youth who are interested in post-secondary education program such as culinary arts, certified nursing, massage therapy, painting and decorating, etc., do not see the need to take mathematic courses and/or do well in the ones that are required.**

J. If a chef can make good scrambled eggs for three people, can s/he make them for 30 people cost-effectively? A restaurant owner needs to find the interception of two lines. One line is how much you spend. The other is how much you make. That is an example of algebra applied in a real life situation.

If I hire you to paint this room green, you have to visually determine how much paint to buy. If you have  $\frac{3}{4}$  of a can of green paint left that you have no use for, you cut into your profits.

You own a body-fender shop. How do you cost out your services so you can make money and keep your customers coming back? What is your breakeven point?

Merchandise is sold by unit price. What does unit price mean? If you are a business owner and you buy in bulk from K-mart or Costco, how do you determine the number of units you need?

Completing a program owing \$20,000 in educational loans when you're only making \$30,000 a year—that's arithmetic

### Y. Any final words?

J. We have to be intentional about instilling in our students the responsibility they have for helping to advance the future. And, we have an obligation to prepare our students. This includes changing their attitude about mathematics.

**Y. Thank you Dr. Johnson. We appreciate your input.**

# Food For Thought

- According to CareerCast.com, the three top-ranked jobs today are mathematician, actuary, and statistician. 200 jobs were ranked on their relative income, work environment, future employment prospects, physical requirements, and stress.
- Mathematics teaches patience, discipline, and step-by-step problem-solving skills. According to Jobs Rated Almanac, for those with a substantial background in mathematics, an unlimited number of career opportunities are available.
- According to the international Organization for Economic Co-operation and Development, the U.S. made statistically significant increases in our math and science scores from 1995 to 2003 BUT our 15-year olds still come in 24th of 29 countries in terms of mathematical performance. For comparison, Finland and Korea scored around 540 on the Program for International Student Assessment (PISA) math scale; we scored around 480.

*Sources: U.S. Department of Justice, Centers for Disease Control and Prevention (CDC)*

**Become part of the SOLUTION, not the PROBLEM!**



**Our MATH Issue**

For Youth By Youth  
c/o The Open Book Program  
435 E. 35th St.,  
Chicago, IL 60616

